Please amend the application as follows:

Amendments to the Claims

Please amend Claims 1, 11, 13, 32, 33, 41, 46 and 50-52. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

1. (Currently Amended) A method for maintaining a cluster definition for a network cluster having at least one member node, the method comprising:

coupling ~~the at least one~~ each member node to a shared repository;

storing a current cluster definition for the network cluster at a single location in the shared repository;

accessing, by each member node in the network cluster, the current cluster definition at the single location in the shared repository;

selecting a coordinator node from ~~the at least~~ one of the member nodes of the network cluster;

at [[a]] one of the member nodes, requesting a change to the current cluster definition by sending a proposed change to the shared repository; and

in response to the proposed change request, updating, from the coordinator node, the current cluster definition stored at the single location in the shared repository to reflect the requested change.

2. (Previously Presented) The method of Claim 1 wherein requesting a change to the cluster definition includes:

sending the proposed change to a scratch area of the shared repository; and

setting a valid bit associated with the scratch area of the shared repository.

3. (Previously Presented) The method of Claim 2 wherein updating the cluster definition includes:

verifying the valid bit;

setting an update flag;

modifying the cluster definition to reflect the requested change;

logging a progress of modifying the cluster definition in a log file in parallel with modifying the cluster definition;

incrementing a version number associated with the shared repository; and

clearing the valid bit and the update flag.

4. (Original) The method of Claim 3 wherein modifying the cluster definition includes:

copying the proposed change from the scratch area to the cluster definition.

5. (Previously Presented) The method of Claim 1 further comprising:

requesting, by a potential member node, membership in the network cluster; and

accessing, by the potential member node, the cluster definition stored in the shared repository.

6. (Original) The method of Claim 5 wherein accessing the cluster definition includes:

determining a version number of the shared repository to yield a first version number;

reading the cluster definition;

re-determining a version number of the shared repository to yield a second version number;

comparing the first version number with the second version number; and

repeating the step of accessing the cluster definition until the first version number equals the second version number.

7. (Original) The method of Claim 1 further comprising:

recovering from a failure of the coordinating node.

8. (Previously Presented) The method of Claim 7 wherein recovering includes:

selecting a new coordinator from the member nodes of the network cluster; and

completing, by the new coordinator node, an update of the cluster definition to reflect the proposed change if there is a set valid bit and an incomplete log file in the shared repository.

9. (Original) The method of Claim 8 wherein completing an update includes:

reading the incomplete log file; and

continuing the update of the cluster definition from a point, as indicated by the incomplete log file, where the coordinating node ceased updating the cluster definition due to the failure of the coordinating node.

10. (Previously Presented) The method of Claim 2 further including the step of:

re-requesting, by the member node, the change to the cluster definition if after a period of time, the change is not made to the cluster definition.

11. (Currently Amended) An apparatus for updating a cluster definition for a network cluster having at least one member node, comprising:

a shared repository coupled to ~~the at least one~~ each member node of ~~the~~ a network cluster, the repository including ~~the~~ a current cluster definition ~~and~~ where each member node of the cluster accesses the current cluster definition at a single location in the shared repository;

a proposed change to the current cluster definition~~; and~~ sent to the shared repository by one of the member nodes; and

a coordinator node, selected from ~~the at least~~ one of the member nodes of the network cluster, to update the current cluster definition with the proposed change.

12. (Previously Presented) The apparatus of Claim 11 further including:

a log file, indicating a progress of updating the cluster definition.

13. (Currently Amended) A computer program product for maintaining a cluster definition for a network cluster having at least one member node, the computer program product comprising:

a computer usable medium having computer readable program code thereon, including program code for:

coupling ~~the at least one~~ each member node to a shared repository;

storing a current cluster definition for the network cluster at a single location in the shared repository for access by each of the member nodes;

selecting a coordinator node from ~~the at least~~ one of the member nodes of the network cluster;

requesting, by one of the member nodes, a change to the current cluster definition by sending a proposed change to the shared repository; and

directing the coordinator node to update the current cluster definition at the single location in response to the requested change to the current cluster definition.

14. (Previously Presented) The computer program product of Claim 13 wherein the request to change the cluster definition further includes program code for:

sending a proposed change to a scratch area of the shared repository; and

setting a valid bit associated with the scratch area of the shared repository.

15. (Previously Presented) The computer program product of Claim 14 wherein the program code which directs the coordinator node to update the cluster definition further comprises program code for:

verifying the valid bit;

setting an update flag;

modifying the cluster definition to reflect the requested change;

logging a progress of modifying the cluster definition in a log file in parallel with modifying the cluster definition;

incrementing a version number associated with the shared repository; and

clearing the valid bit and the update flag.

16. (Previously Presented) The computer program product of Claim 15 wherein the program code for modifying the cluster definition further includes program code for:

copying the proposed change from the scratch area to the cluster definition.

17. (Previously Presented) The computer program product of Claim 13 further comprises program code for:

directing a potential member node to request membership in the network cluster; and

directing the potential member node to access the cluster definition.

18. (Previously Presented) The computer program product of Claim 17 wherein the program code for directing the potential member node to access the cluster definition further includes program code for:

determining a version number of the shared repository to yield a first version number;

reading the cluster definition;

re-determining a version number of the shared repository to yield a second version number;

comparing the first version number with the second version number; and

accessing the cluster definition until the first version number equals the second version number.

19. (Previously Presented) The computer program product of Claim 13 further includes program code for:

recovering from a failure of the coordinating node.

20. (Previously Presented) The computer program product of Claim 19 wherein the program code for recovering further includes program code for:

selecting a new coordinator node from the member nodes of the network cluster; and

directing the new coordinator node to complete an update of the cluster definition to reflect the requested change if there is a set valid bit and an incomplete log file in the shared repository.

21. (Previously Presented) The computer program product of Claim 20 wherein the program code for directing the new coordinator node to complete an update further includes program code for directing the new coordinator node to:

read the incomplete log file; and

continue the update of the cluster definition from a point, as indicated by the incomplete log file, where the coordinating node ceased updating the cluster definition due to the failure of the coordinating node.

22. (Previously Presented) The computer program product of Claim 13 further comprises program code for:

directing the member node to re-request the change to the cluster definition if after a period of time, the change is not made to the cluster definition.

23. (Previously Presented) The apparatus of Claim 11 wherein the proposed change is stored in a scratch area of the shared repository.

24. (Previously Presented) The apparatus of Claim 23 further comprises:

a set valid bit associated with a scratch area;

an update flag indicating the valid bit is verified by the coordinator node; and

a version number of the shared repository, incremented by the coordinator node, to indicate an update to the cluster definition.

25. (Previously Presented) The apparatus of Claim 23 wherein the coordinator node updates the cluster definition by copying the proposed change from the scratch area to the cluster definition and clearing the valid bit and the update flag.

26. (Previously Presented) The apparatus of Claim 11 wherein a member node requests the proposed change to the cluster definition, and if after a period of time the proposed change is not made to the cluster definition, the member node re-requests the proposed change to the cluster definition.

27. (Previously Presented) The apparatus of Claim 11 further comprises:

a potential member node to request membership in the network cluster by accessing the cluster definition.

28. (Previously Presented) The apparatus of Claim 27 wherein the potential member node further includes logic for:

determining a version number of the shared repository to yield a first version number;

reading the cluster definition;

re-determining a version number of the shared repository to yield a second version number;

comparing the first version number with the second version number; and

repeating the step of accessing the cluster definition until the first version number equals the second version number.

29. (Previously Presented) The apparatus of Claim 11 further comprises:

a new coordinator node, selected from the at least one member node, to update the cluster definition if the coordinator node fails to operate.

30. (Previously Presented) The apparatus of Claim 29 wherein the new coordinator node completes the update to cluster definition to reflect the requested change if there is a set valid bit and an incomplete log file in the shared repository.

31. (Previously Presented) The apparatus of Claim 30 wherein the new coordinator node completes the update by reading the incomplete log file, and continuing the update from a point, as indicated by the incomplete log file, where the coordinating node ceased updating the cluster definition due to the failure of the coordinator node.

32. (Currently Amended) A system for maintaining a cluster definition for a network cluster having at least one member node, the system comprising:

a means for coupling ~~the at least one~~ each member node to a shared repository;

a means for storing a current cluster definition for the network cluster at a single location in the shared repository;

a means for accessing, by each of the member nodes, the current cluster definition at the single location in the shared repository;

a means for selecting a coordinator node from ~~the at least~~ one of the member nodes of the network cluster;

a means for requesting, by one of the member nodes, a change to the cluster definition by sending a proposed change to the shared repository; and

a means for the coordinator node to update the current cluster definition at the single location to reflect the requested change.

33. (Currently Amended) A method for updating a cluster definition for a network cluster having at least one member node, the method comprising:

coupling ~~the at least one~~ each member node to a shared repository;

storing a current cluster definition for the network cluster in the shared repository;

accessing, by each of the member nodes, the current cluster definition at the single location in the shared repository;

selecting a coordinator node from the at least one member node of the network cluster;

at [[a]] one of the member nodes, requesting a change to the cluster definition;

from the coordinator node, updating the current cluster definition at the single location to reflect the requested change; and

from a potential member node, accessing the current cluster definition at the single location stored in the shared repository.

34. (Previously Presented) The method of Claim 33 wherein requesting a change to the cluster definition further includes:

sending a proposed change to a scratch area; and

setting a valid bit associated with the scratch area.

35. (Previously Presented) The method of Claim 34 wherein updating the cluster definition includes:

verifying the valid bit;

setting an update flag;

modifying the cluster definition to reflect the requested change by copying the proposed change from the scratch area to the cluster definition;

logging a progress of modifying the cluster definition in a log file in parallel with modifying the cluster definition;

incrementing a version number associated with the shared repository; and

clearing the valid bit and the update flag.

36. (Previously Presented) The method of Claim 33 further including the step of:

re-requesting, by the member node, the change to the cluster definition if after a period of time, the change is not made to the cluster definition.

37. (Previously Presented) The method of Claim 33 wherein the potential member node accessing the cluster definition is requesting member in the network cluster.

38. (Previously Presented) The method of Claim 37 wherein accessing the cluster definition includes:

determining a version number of the shared repository to yield a first version number;

reading the cluster definition;

re-determining a version number of the shared repository to yield a second version number;

comparing the first version number with the second version number; and

repeating the step of accessing the cluster definition until the first version number equals the second version number.

39. (Previously Presented) The method of Claim 33 further comprises:

recovering from a failure of the coordinating node including selecting a new coordinator node from the member nodes of the network cluster, and completing, by the new coordinator node, an update of the cluster definition to reflect the requested change if there is a set valid bit and an incomplete log file in the shared repository.

40. (Previously Presented) The method of Claim 39 wherein completing an update includes:

reading the incomplete log file; and

continuing the update of the cluster definition from a point, as indicated by the incomplete log file, where the coordinating node ceased updating the cluster definition due to the failure of the coordinating node.

41. (Currently Amended) An apparatus for maintaining a cluster definition for a network cluster having at least one member node, comprising:

a shared repository coupled to ~~the at least one~~ each member node of the cluster, the shared repository including ~~the~~ a current cluster definition ~~and~~ where each member node of the cluster accesses the current cluster definition at a single location in the shared repository;

a proposed change to the current cluster definition~~; and~~ sent to the shared repository by one of the member nodes;

a coordinator node, selected from ~~the at least~~ one of the member nodes of the network cluster, to update the current cluster definition at the single location with the proposed change; and

a potential member node to access the current cluster definition at the single location in the shared repository.

42. (Previously Presented) The apparatus of Claim 41 wherein a member node requests the proposed change to the cluster definition, and if after a period of time the proposed change is not made to the cluster definition, the member node re-requests the proposed change to the cluster definition.

43. (Previously Presented) The apparatus of Claim 41 wherein the potential member node requests membership in the network cluster.

44. (Previously Presented) The apparatus of Claim 43 wherein the potential member node further includes logic for:

determining a version number of the shared repository to yield a first version number;

reading the cluster definition;

re-determining a version number of the shared repository to yield a second version number;

comparing the first version number with the second version number; and

repeating the step of accessing the cluster definition until the first version number equals the second version number.

45. (Previously Presented) The apparatus of Claim 41 further comprises:

a new coordinator node, selected from the at least one member node, to update the cluster definition if the coordinator node fails to operate.

46. (Currently Amended) A computer program product for maintaining a cluster definition for a network cluster having at least one member node, the computer program product comprising:

a computer usable medium having computer readable program instructions thereon, including instructions for:

coupling ~~the at least one~~ each member node to a shared repository;

storing a current cluster definition for the network cluster at a single location in the shared repository for access by each of the member nodes in the network cluster;

selecting a coordinator node from ~~the at least~~ one of the member nodes of the network cluster;

directing the coordinator node to update the current cluster definition at the single location to reflect a requested change; and

directing a potential member node to access the current cluster definition at the single location in the shared repository.

47. (Previously Presented) The computer program product of Claim 46 further comprising program instructions for:

directing the potential member node to request membership in the network cluster.

48. (Previously Presented) The computer program product of Claim 47 further comprises program instructions for directing the potential member node to:

determine a version number of the shared repository to yield a first version number;

read the cluster definition;

re-determine a version number of the shared repository to yield a second version number;

compare the first version number with the second version number; and

access the cluster definition until the first version number equals the second version number.

49. (Previously Presented) The computer program product of Claim 46 further comprising program instructions for:

recovering from a failure of the coordinating node.

50. (Currently Amended) A system for maintaining a cluster definition for a network cluster having at least one member node, the system comprising:

a means for coupling ~~the at least one~~ each member node to a shared repository;

a means for storing a current cluster definition for the network cluster at a single location in the shared repository;

a means for accessing, by each member node in the network cluster, the current cluster definition at the single location in the shared repository;

a means for selecting a coordinator node from ~~the at least~~ one of the member nodes of the network cluster;

a means for requesting a change to the current cluster definition;

a means for the coordinator node to update the current cluster definition at the single location in the shared repository to reflect the requested change; and

a means for a potential member node to access the current cluster definition at the single location in the shared repository.

51. (Currently Amended) A method for maintaining a cluster definition for a network cluster having at least one member node, the method comprising:

coupling ~~the at least one~~ each member node to a shared repository;

storing a current cluster definition for the network cluster at a single location in the shared repository;

selecting a coordinator node from the at least one of the member nodes of the network cluster;

at [[a]] one of the member nodes, requesting a change to the current cluster definition;

for each requested change:

sending a proposed change to a scratch area;

setting a valid bit associated with the scratch area;

verifying the valid bit;

setting an update flag;

modifying the current cluster definition to reflect the requested change; and

logging a progress of modifying the cluster definition in a log file in parallel with modifying the current cluster definition;

incrementing a version number associated with the shared repository; and

clearing the valid bit and the update flag; and

from the coordinator node, updating the current cluster definition at the single location to reflect the requested change.

52. (Currently Amended) A method for maintaining a cluster definition for a network cluster having at least one member node, the method comprising:

coupling ~~the at least one~~ each member node to a shared repository;

storing a cluster definition for the network cluster at a single location in the shared repository;

selecting a coordinator node from ~~the at least~~ one of the member nodes of the network cluster;

at a member node, requesting a change to the cluster definition;

from the coordinator node, updating the cluster definition at the single location to reflect the requested change;

requesting, by a potential member node, membership in the network cluster; and

accessing, by the potential member node, the cluster definition at the single location, for each potential member node accessing the cluster definition at the single location:

determining a version number of the shared repository to yield a first version number;

reading the cluster definition;

re-determining a version number of the shared repository to yield a second version number;

comparing the first version number with the second version number; and

repeating the step of accessing the cluster definition until the first version number equals the second version number.

Please add new claim 53:

---

53. (New) A method of maintaining a cluster definition for a network cluster, the method comprising:

coupling each member node to a shared repository;

storing a current cluster definition for the network cluster at a single location in the shared repository;

selecting a coordinator node from one of the member nodes to update the cluster definition at the single location in the shared repository; and

determining, by each member node, the current cluster definition by accessing the updated, current cluster definition at the single location in the shared repository.
